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A new species of *Microsphecodes* from Jamaica (Hymenoptera, Halictidae)

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Abstract

A new species of the cleptoparasitic bee genus *Microsphecodes* Eickwort and Stage (Halictinae: Halictini) is described and figured from a male and female collected in Jamaica. *Microsphecodes xaymacensis* Engel, **sp. n.**, is distinguished from its congeners on the basis of integumental coloration and sculpturing, and form of the male pygidial plate and genitalia.

Keywords

Hymenoptera, Apoidea, Anthophila, Halictinae, Halictini, Sphecodina, new species, taxonomy

Introduction

The West Indian sphecodine fauna is, much like the general halictine fauna of the region, poorly documented. Relatively few species have been described and recorded from the West Indies (Table 1) and for nearly all, the biology remains to be characterized [*e.g.*, Raw 1985 (mention of unidentified species); Eickwort 1988]. The West Indian halictid fauna is considered mostly by Eickwort (1988), Snelling (2005), Engel (2001a, 2006a, 2006b), Genaro (2001, 2006, 2007, 2008), and Genaro and Franz (2008), with minor additions by Smith-Pardo (2009) and Engel (2011), but revisions and critical biological investigations are needed greatly. Hosts remain unknown for all of the described West Indian sphecodines.

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Table 1. Checklist of world species of *Microsphecodes*, and other described Caribbean sphecodines[1] (from Engel 2006a, 2006b, 2006c).

Genus *Microsphecodes* Eickwort & Stage	
–Continental	
M. kathleenae (Eickwort)	Costa Rica, Colombia
M. russeiclypeatus (Sakagami & Moure)	Brazil
M. trichommus Michener	Colombia
M. truncaticaudus Michener	Colombia
–Caribbean	
M. dominicanus (Stage)	Dominica
M. kittensis Engel	St. Kitts
M. solitarius (Ashmead)	St. Vincent[2]
M. thoracicus (Ashmead)	St. Vincent
M. xaymacensis **sp. n.**	Jamaica
Genus *Nesosphecodes* Engel	
N. anthracinus Engel	Puerto Rico
N. cubicola Engel	Cuba
N. halictophagus Engel	Dominican Republic
Genus *Sphecodes* Latreille	
S. genaroi Engel	Cuba
S. nigritus Ashmead	St. Vincent
S. tainoi Engel	Cuba

[1] Sphecodines as a whole are quite diverse and the monophyly of *Sphecodes* is questionable. Once phylogenetic studies are completed then the resurrection of former entities such as *Drepanium*, *Proteraner*, and *Sphecodium* should be considered over a retrograde classification lumping all into *Sphecodes* as has been advocated.

[2] The apparent bias in diversity towards St. Vincent (with three sphecodines recorded) is artificial and simply reflects that this is one of the few islands, along with Grenada, for which there is a significant historical monograph (Ashmead 1900). These islands, which are of average size for the Lesser Antilles, do not harbor a greater diversity and once the sphecodines of Dominica, Barbados, Saint Lucia, Curaçao, Guadeloupe, and Martinique are thoroughly surveyed the diversity will undoubtedly grow.

Herein I provide a brief contribution to this fauna by describing a new species of *Microsphecodes* from Jamaica, the first representative of this genus from the island.

Material and methods

Material is deposited in the Snow Entomological Collection, Division of Entomology, University of Kansas Natural History Museum, Lawrence (SEMC), and the Florida State Collection of Arthropods, Gainesville (FSCA). Morphological terminology follows that of Engel (2001b) and Michener (2007), and the format that of Engel (2006a). Measurements were made using an ocular micrometer on an Olympus SZX12 stereomicroscope, while photographs were prepared with a Nikon D1x digital camera attached to an Infinity K-2 long-distance microscope lens.

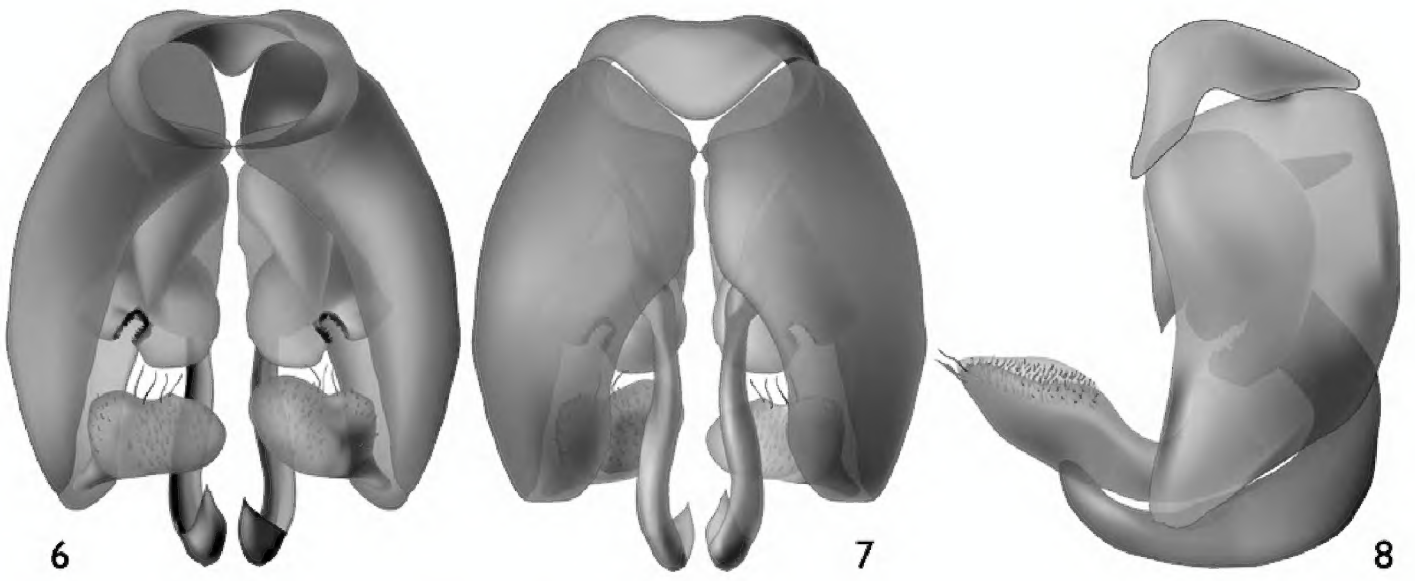
Systematics

Genus *Microsphecodes* Eickwort and Stage, 1972

***Microsphecodes xaymacensis* Engel, sp. n.**
urn:lsid:zoobank.org:act:3048683A-BF8D-4474-A2F3-BD47C2AB3126
http://species-id.net/wiki/Microsphecodes_xaymacensis
Figs 1–12

Holotype. ♂, Jamaica: Saint Andrew Parrish, Hard war Gap, 2–3-viii-1985 [2–3 August 1985], C.B. & H.V. Weems, G.B. Edwards (FSCA).

Figures 1–5. Photomicrographs of male holotype of *Microsphecodes xaymacensis* Engel, sp. n. **1** Lateral habitus **2** Facial aspect **3** Dorsal view of posterior mesosoma, highlighting propodeum, metanotum, mesoscutellum and posterior third of mesoscutum **4** Pygidial plate **5** Detail of forewing venation.



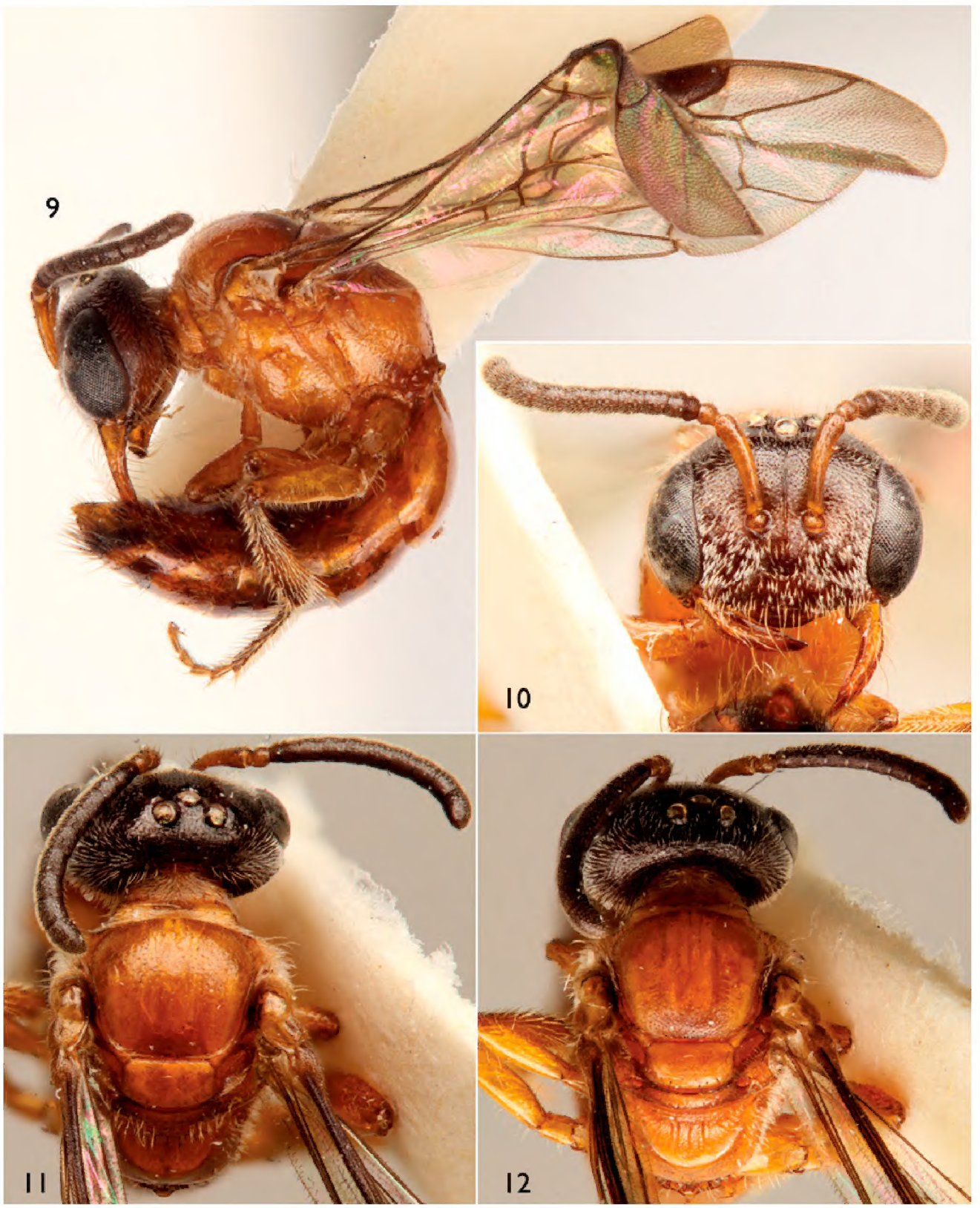
Figures 6–8. Male genitalia of *Microsphecodes xaymacensis* Engel, sp. n. **6** Ventral aspect **7** Dorsal aspect **8** Lateral aspect.

Paratype. ♀, Jamaica: Saint Andrew Parrish, Hard war Gap, 2–3-viii-1985 [2–3 August 1985], C.B. & H.V. Weems, G.B. Edwards (SEMC).

Diagnosis. The new species can be readily distinguished from its congeners by the structure of the male genitalia (Figs 6–8) and the combination of the broad male pygidial plate bordered by elongate simple or apically-branched setae (Fig. 4), hyaline wings (Fig. 5), and the rugoso-striate basal area of the propodeum not enclosed by carinae (Figs 3, 12) (the latter generally typical for West Indian species: *vide* Eickwort and Stage 1972). In addition, the coloration of the new species deviates from other West Indian *Microsphecodes* in the entirely ferruginous or orange-testaceous mesosoma [in *Microsphecodes solitarius* (Ashmead) the entire mesosoma is black except the pronotum and mesosternum are testaceous; in *M. dominicanus* (Stage) the entire mesosomal dorsum is black, the pleura are fuscous, and the venter testaceous; in *M. thoracicus* (Ashmead) the mesoscutum and pleura are testaceous while the mesoscutellum, metanotum, and propodeum are darkly infuscate; and in *M. kittensis* Engel the entire mesosoma is yellow to yellow-testaceous with the mesoscutellum and metanotum black].

Description. *Male*: Total body length 4.85 mm; forewing length 4.1 mm. Head broader than long (width 1.33 mm, length 1.04 mm as measured from clypeal apex to vertex in frontal aspect) (Fig. 2). Frontal line carinate just between antennal toruli to point above upper tangent of toruli equivalent to about torulus diameter, becoming an impressed line from that point onward. Mandibular base meeting lower border of compound eye. Inner margin of compound eye slightly concave just above level of antennal toruli. Gena narrower than compound eye in profile. Scape length 0.42 mm; first flagellomere about as long as second flagellomere. Intertegular distance 0.89 mm. Forewing venation as in figure 5; hind wing with six distal hamuli arranged in a single series. Pygidial plate well delimited, wide, broadly rounded at apex, with slightly depressed shining surface and carinate rim (Fig. 4). Male genitalia as in figures 6–8.

Integument generally shining. Clypeus imbricate with shallow, contiguous punctures; remainder of head distinctly punctate, punctures on lower part of face nearly



Figures 9–12. Photomicrographs of female paratype of *Microsphecodes xaymacensis* Engel, sp. n. **9** Lateral habitus **10** Facial aspect **11** Dorsal view of head and mesosoma highlighting head and mesoscutum **12** Dorsal view of head and mesosoma highlighting mesoscutellum, metanotum, and propodeum.

contiguous, becoming more widely spaced toward upper frons and vertex, separated by 0.25–1.5 times a puncture width, integument between punctures smooth and shining except on lower face finely imbricate, punctures weaker on vertex and sparser around ocelli; postgena faintly imbricate and impunctate. Pronotum with sparsely-scattered, minute punctures, integument between punctures imbricate. Mesoscutum imbricate with punctures separated by 1–2.5 times a puncture width, punctures shallower, fainter, and sparser around median line and along anterior and lateral sections; tegula impunctate and exceedingly faintly imbricate; mesoscutellum sculptured as on

mesoscutum except punctures fainter and separated by 2–3 times a puncture width. Metanotum imbricate. Pleura smooth to faintly imbricate, with sparse minute punctures. Basal area of propodeum with strong, rugulose striae radiating from basal margin (Fig. 3), integument between striae finely imbricate; lateral and posterior surfaces of propodeum imbricate with scattered, faint, coarse punctures. Metasomal terga and sterna faintly imbricate except first metasomal tergum smooth.

Mandible, labrum, and labiomaxillary complex ferruginous; remainder of head nearly black or dark brown; antenna dark brown (Figs 1–2). Mesosoma largely ferruginous (Fig. 1) except darker on median and lateral portions of mesoscutum and entirety of mesoscutellum, metanotum, and dorsal surface of propodeum (Fig. 3). Wing veins brown; wing membrane largely hyaline. Legs ferruginous except meso- and metatibiae and meso- and metatarsi brown. Metasoma largely ferruginous except dark brown on more apical terga and sterna; pygidial plate ferruginous (Fig. 4).

Pubescence relatively sparse, white except somewhat yellow on pleura, legs, and metasoma. Setae generally simple and erect, some with minute branches; face with moderately-dense, appressed, short, plumose setae on lower face and clypeus (Fig. 2).

Female: As described for the male except in usual gender differences as well as the following: Total body length 4.80 mm; forewing length 4.2 mm. Head broader than long (width 1.41 mm, length 1.04 mm). Mandible elongate, without dentition, about as long as compound eye (Figs 9–10). Frontal line carinate just between antennal toruli to point above upper tangent of toruli equivalent to twice torulus diameter, becoming a faintly impressed line from that point onward (Fig. 10). Gena only slightly narrower than compound eye in profile (Fig. 9). Scape length 0.52 mm; first flagellomere slightly shorter than second flagellomere. Intertegular distance 0.89 mm. Inner metatibial spur simple.

Mandible and labiomaxillary complex orange testaceous; labrum, clypeus and face dark reddish brown blending to nearly black on vertex (Figs 10–12); gena dark reddish brown; scape and pedicel orange testaceous; flagellum dark brown; mesosoma orange testaceous except more yellowish on pronotal dorsal surface and propodeal dorsal surface (Figs 11–12); legs orange testaceous except dark reddish brown to ferruginous on meso- and metatibiae and meso- and metatarsi; metasoma orange testaceous blending to ferruginous and to dark brown by third tergum, remaining terga largely ferruginous, with dark brown apical portions.

Mesoscutal punctures more well defined posteriorly and separated by 1–1.5 times a puncture width, otherwise as in male with punctures shallower and fainter anteriorly and more widely spaced.

Setae on legs white and on apical portions of metasoma fuscous.

Etymology. The specific epithet is based on the indigenous Arawakan-speaking Taíno islanders' name for Jamaica, Xaymaca, and meaning "Land of Springs".

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